

Lesson 2 significant digits.notebook

Significant Digits

100.48 m
2482.387 m
487 m
287.1 m

Measurement and Calculations

- Scientists have come up with an international agreement about the correct way to record measurements.
- This agreement states to record all those digits that are certain, plus one uncertain digit "certain plus one". These digits are known as **significant digits**.
- The greater the number of significant digits, the greater the certainty of the measurement.

How do you know how to count for significant digits?

- There are rules to counting significant digits:

1. All nonzero digits are significant

Ex: 34.5678 = there are 6 significant digits

2. Zeros appearing between nonzero digits are significant

Ex: 30.39 = 4 significant digits

3. Zeros in front of nonzero digits are **NOT** significant

Ex: 0.00405 = 3 significant digits

4. Zeros to the right of a decimal point are significant

Ex: 3.500 = 4 significant digits

5. Zeros at the end of a number with **NO** decimal point are **NOT** significant

Ex: 450 = 2 significant digits

6. Zeros at the end of a number with a decimal point **are** significant.

Ex: 450. = 3 significant digits

Try these:

a. 2730 \rightarrow 3 b. 4000. $\overset{x}{=}$ 4 c. 76.53 = 4

d. 3010 = 3 e. 0.0040 = 2 f. 4.340 = 4

g. ~~8,000~~ 28 = 2 h. 765043 = 6 i. ~~0.000~~ 421 = 3

j. ~~8~~ 2013 = 4 k. 4032 = 4 l. 1310.68 = 6

m. 4000. $\overset{1}{\rightarrow}$ 4 n. 5001 = 4 o. 700000007 = 9

p. 34500 $\overset{1}{\rightarrow}$ 5